

LAUNCH SERVICES PROGRAM







Pardon the Interruption Meeting October 2007









Fleet and Mission Status

October 18, 2007 LSP Internal Use Only 2



GLAST Project Summary

John F. Kennedy Space Center

LAUNCH SERVICES PROGRAM

Mission	GLAST
Launch Date	2008/02/05
Launch Vehicle	Delta II
Launch Period Window	Day to Day 45 min of sunlight after S/C separation
PPF	ASO-KSC

OVERALL	MISSION	

Aug	Seh	OCI
Y	Υ	Y

MISSION MANAGEMENT

Observatory Status Manifest/Range

Integrated Schedule

ICD

CDRLs (S/C & LSC)

Aug	Sep	Oct
G	G	6
G	G	G
G	G	G
G	G	G
G	G	G

LAUNCH SITE

LSSP Customer Inputs PPF

Launch Site Unique Spacecraft OPS

Aug	Sep	Oct
0	0	G
0	0	G
0	0	G
0	0	6
0	0	Υ

SAFETY & MISSION ASSURANCE

Mission Assurance

Safety Quality

Reliability

Υ	Υ	6
G	G	G
Y	Υ	Υ
G	G	B

Sep

Oct

ENGINEERING

Launch Vehicle Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

Υ	Υ	Υ
G	G	G
0	N/A	N/A
Υ	Υ	Υ
G	G	Υ
G	G	G
G	G	G

COMM & TELEMETRY

Communications

Telemetry

G	G	G
0	0	0

BUSINESS

Budget

Contracts

6	G	6
G	G	G

LEGEND

Proceeding on Plan Area of Concern

Significant Problem

Not Evaluated

Not Applicable



DOWNRANGE TELEMETRY

Ground Stations

Deployables

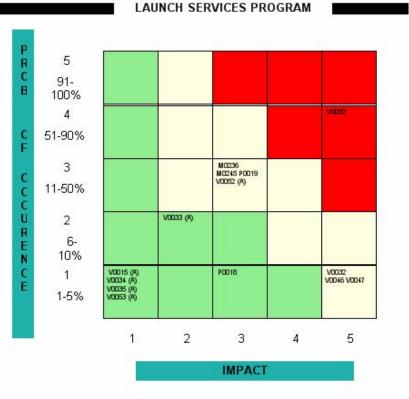
P-3/OTTR

0	0	D
0	0	0
0	0	D



GLAST - Open/Accepted Risks

	8	Condition
RYG Trend	RiskID	Consequence
Y	M0236	GLAST Type 1 Analysis DCR delayed to L-4 months (initially). Current DCR date is NET 11/30/07; current launch date 02/05/08.
		Minimal schedule time to mitigate any issues should they be found.
M024	M0245	There is a short turnaround time between the DAWN DIIH post flight data review and the GLAST DIIH PreVOS.
		Open technical issues or incomplete post flight data review, impacting launch readiness and major review schedules.
0	∨0032	The first 3 flights of the Delta 792X Heavy Vehicle resulted in unexpected behavior during transonic flight.
		Delay in launch date due to incomplete anomaly investigation.
V0046 0	ULA does not perform an inspection for microscopic cracks before providing a spacecraft customer with a TPAF.	
		Propagation of a micro crack in the TPAF during shock or vibe testing could cause damage to the spacecraft.
0	∨0047	Failure analysis of a PacSci detonator that failed service life extension testing uncovered a vulnerability in which detonators could be reworked and inadvertantly returned to production without the correct load.
		Failure to initiate FTS destruct ordnance chain on command.



	V0050	DAWN experienced a significant delay very late in
0		the hardware production process that delayed the launch readiness date. The same contributing causes exist for other NASA missions.
		Possible delay of other NASA missions.
0	√0015 (A)	Nine flight critical engine section components are unqualified for the newly revised P95/50 MEFL MECO transient environment.
		Loss of mission (worst case).
0	√0033 (A)	Cracks have occurred and been detected within Electronics-Package Thick Film Assemblies.
		Undetected cracks in other E-Packages causing failure.
0	∨0034 (A)	Delaminations have occurred within the Graphite Epoxy Motor (GEM) nozzles' Exit Cone Liners (ECL) and Throat Support Insulators (TSI).
		Detrimental hot gas flow, adverse heating and eventual failure of the nozzle.
	V0035 (A)	A photodiode failed within RIFCA S/N 20093.
0		Failure of photodiode in flight causing loss of one lane in RIFCA.
0	√0053 (A)	All solid-nickel cased discrete semiconductors (transistors and diodes in a TO-XX can) are suspect to have conductive nickel flakes as a consequence of the forming process used to manufacture the cans.
		Loss of mission.
0	√0052 (A)	LS SMA has noted human error and process issues that indicate that Boeing's Quality Management System Corrective Actions are not preventing reoccurrence.
		The re-occurrence of undetected human errors and process problems can lead to major damage or loss of flight hardware or GSE.
	P0018	Traditional DMCO testing on DII vehicles will be eliminated.
0		Elimination of DMCO testing will not allow for capturing hardware failures off-pad, and thus introduce potential for on pad schedule delays.

	P0019	USAF must fly out 5 Delta II GPS by end of FY 2008.
0		Possible shifts in NASA FPB manifest dates for missions affected.



GLAST - Actions / Issues / Concerns

	LAUNCH SERVICES PROGRAM	
There are no Actions.		Ť

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	Υ	First DII 7920H-10C ER, Type 1 analysis required - DCR has slipped to NET 11/30/07.	ERS-05-286 (M0236)	8/8/2005	11/30/2007
Engineering	G	S/C power on at launch - T-0 battery cooling to be implemented. Gasket to be implemented to correct leakage at miniskirt interface.	ERS-06-124	4/17/2006	12/6/2007
Engineering	G	2nd Stage Tank Leaks - Themis	ERS-06-284	08/04/2006	9/14/2007
Engineering	G	MECO Assessment-Plan reviewed and accepted by LSP - awaiting S/C testing results	ERS-05-137	4/19/05	10/01/2007
Engineering	G	Dawn Heavy post flight review will be conducted within weeks of GLAST launch.	M0245	11/27/06	10/10/07
Engineering	G	S/C thermal model delivered late (5/16/07) which impacts ITA completion. ULA had difficulties with model & was late starting their analysis. Still waiting on ULA for TA proposal to begin ITA.	WI	02/13/2007	10/01/2007
Engineering	G	The first 3 flights of the Delta 792X Heavy Vehicle resulted in unexpected behavior during transonic flight.	V0032	03/13/2007	09/28/2007
Engineering	G	Failure analysis of a PacSci detonator that failed service life extension testing uncovered a vulnerability in which detonators could be reworked and inadvertantly returned to production without the correct load.	∨0047	03/13/2007	09/28/2007
Engineering	Υ	DAWN experienced a launch delay due to late shipment of hardware from Decatur. GLAST S2 Decatur ship date is currently 11/16/07 for a launch date of 02/05/08.	√0050	04/18/2007	11/16/07
Engineering	G	LS SMA has noted human error and process issues that indicate that Boeing's Quality Management System Corrective Actions are not preventing re-occurrence.	√0052	05/23/2007	08/15/2008
Engineering	Υ	Pyro-valve leak in propulsion checkout may cause a schedule problem.	WI	10/15/07	10/25/07



GLAST - Significant Events

Accomplished			
ATP	9/12/05		
PSWG/GOWG	10/17/05-10/19/05		
GOWG #3	4/18/06		
MIWG #5	4/19/06		
ICD Baselined	5/5/06		
MIWG #6	9/20/06		
TFA	02/21/2006		
PMA	10/06/2006		
GOWG #4	04/04/2007		
ICD Revision "A" Release	05/02/2007		
Spacecraft Fitcheck	09/25/2007		
T-0 Battery Cooling ERB	04/12/2007		
ICD ERB	04/13/2007		
Pre-Environmental Review	04/11/2007-04/12/2007		
DTO Trajectory Analysis	04/02/2007-07/25/2007		
MIWG #7	04/19/2007		
MIWG #8 at Denver	08/15/2007		
Spacecraft Shock Test	10/03/2007-10/05/2007		
Spacecraft Sine Vibe/Acoustic	09/17/2007-10/01/2007		

Planned		
Type I DCR	11/30/2007	
GOWG #5	10/23/2007- 10/24/2007	
MAR	11/14/2007	



GLAST Mission Management

Bruce Reid

LAUNCH SERVICES PROGRAM

Mission	
Launch	Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

GLAST
2008/02/05
565 km Circ 28.5 deg
Delta II
Day to Day 45 min of sunlight after S/C separation
ASO-KSC
NTE 4627
SLC-17 B

Observatory Status

Observatory Status Schedule

Б. 1. .

Budget

Deliverables

Testing

ATLO

Instrument

Aug	Sep	Oct
G	6	G
Υ	Y:	Y
G	6	G
G	6	G
G	6	G
G	6	G
-6		- 6

Mission Center:

Program:

PM

LVI

ММ

IE LSIM

PIM

MAM

MCE MTE

GSFC	
SEU	

K. Grady M. Goeser

Bruce Reid
Diana Calero
Tom Rucci
Benjamin Studenski
Bob Henry
Marty Lougheed
Nathan Wood



ICD

Aug	Sep	Oct
G	6	G

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables

P-3/OTTR

G	G	G
G	G	G
G	G	G
0	0	0
D	0	0
0	0	0

SIG	SIGNED SCNS:		IN REVIEW
SCN#	DATE SIGNED	SCN#	DATE SIGNED
3d1	10/31/2006	16d4	
7d2	01/04/2007	11d1	
8d1	09/29/2006	24d1	
9d1	10/31/2006		
10d1	10/31/2006		
1d4	03/02/2007		
4d3	02/15/2007		
2d3	01/04/2007		
13d1	02/15/2007		
14d3	03/02/2007		
15d2	03/02/2007		
12d4	03/27/2007		
5d1	04/19/2007		
20d1	06/22/2007		
17d5	06/11/2007		
18d1	07/19/2007		
22d1	08/13/2007		
21d1	09/11/2007		
23d1	09/11/2007		
25d1	09/11/2007		



GLAST - Engineering

Diana Calero

	Aug	Sep	Oct
Launch Vehicle	Y	Υ	Υ
Payload Fairing	G	G	G
First Stage	Y	Υ	Υ
Second Stage	Y	Υ	Υ
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	G	G	G
Certification	0	N/A	N/A
Mission Analysis	Y	Υ	Υ
ERS/ERB	G	G	Υ
Launch PAD/GSE	G	G	G
Mission Unique IV&V	G	G	G

REQUIREMENT VERIFICATION STATUS				
NUMBER OF REQUIREMENTS	89			
VERIFIED TO DATE	0			

LAUNCH PAD I GSE MODS (IF APPLICABLE)	
Directed battery cooling design/modifications	

MISSION UNIQUE STUDIES (IF APPLICABLE)	
There are none.	



GLAST - Mission ERB Status

Diana Calero

7			ERB Req?		7	Board Held?			Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	AI	ENG.	OCE
G	05-137	GLAST MECO Assessment				\square				
Υ	05-286	Delta 7920H-10C ER Type 1 Analysis								
G	06-086	GLAST Mission ICD Review	\square		Ø					
G	06-124	GLAST T-0 Battery AC System	\square							
G	07-54	GLAST Special Instrumentation								
G	04-152	STSS/PACS Prelaunch Cooling	\square		☑					
G	07-122	GLAST Hardware Reviews								



GLAST - Vehicle ERB Status

Diana Calero

			ERB	Req?	0	Board	Held?	0	Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	AI	ENG.	OCE
Υ	04-474	792X Transonic Observation						☑		
G	05-378	Delta II, RS-27 Engine -51 Hoop/Band Separation			☑				☑	
G	06-284	Delta II 2nd Stage Tanks						Ø		
6	07-53	DMCO On-Pad Initiative	\square			\square				
G	07-72	GEM-46 S/N 30036 Nozzle Delamination								
G	07-194	Loose Backshell Adapter Saddle Clamps on Delta II Wire Harness		☑			☑			
G	07-227	GLAST Lox Start Tank Flex Hose Unavailability		☑			Ø			
G	07-278	High MECO shock on Phoenix Launch					\square			



GLAST - Launch Site

Tom Rucci

LAUNCH SERVICES PROGRAM

Aug Sep Oct

LSSP 0 0 6

LSSP	Planned	Released
Preliminary	08/01/2006	09/29/2006
Baseline	04/12/2007	08/27/2007

	Aug	Sep	Oct
CUSTOMER INPUTS	0	0	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	0	0	G
Training and Personnel Cert	0	0	G
Contingency Plans	0	0	G
Safety LSIM	0	0	G
Radiation Control	0	0	G
Operational Plans	0	0	Υ

UNIQUE REQUIREMENTS

	Aug	Sep	Oct
LAUNCH SITE UNIQUE	0	0	G
Control of S-Band @ 2086- 2126 MHz and GPS 1555- 1595 MHz to 1 volt /meter	0	0	G
TDRS Trailer Staging @ ASO	0	0	G
PPF	0	0	G
Astrotech - Commercial IDIQ	0	0	G
Spacecraft OPS	0	0	Υ
AE Office Space - for pad Ops	0	0	G



GLAST - Business

Benjamin Studenski

LAUNCH SERVICES PROGRAM

Open Milestone Payment

Paid Milestone

Budget Contracts

Launch Services
Contract Mod

Aug	Sep	Oct
G	G	G
G	G	G

Milestone	Date		
Milestone #1	Sep 7 2005		
Milestone #2	Dec 7 2005		
Milestone #3	Mar 7 2006		
Milestone #4	Jul 7 2006		
Milestone #5	Sep 7 2006		
Milestone #6	Dec 7 2006		
Milestone #7	June 14 2007		
Milestone #8	Nov 05 2007		
Milestone #9	Feb 05 2008		

Contract Status			
	Number	Description	
	287	NSS 35.1 Additional Console Notebooks (CCR NLS-B 241), L-6	
	024	ATP Commercial Payload Processing	
	190	NSS 11.2 Enhanced fairing internal cleaning	
	190	NSS 20.1 Pedigree review	
	190	NSS 30.2.4 Additional support for final design load cycle	
	190	NSS 9.1.1 Two 61 pin connectors	
	190	NSS 11.1 Enhanced fairing environment	
	59	NSS 20.3.4 Final Design Load Cycle FDLS	
	73	NSS 20.2 additional MIWG	
	111	NSS 20.3.4 Second Final Design Load Cycle FDLC	

Contract Mod	Number	Description			
	119	NSS 20.2 Support for MIWG			
	181	NSS 20.2 Early MIWG held 08/02/05			
	184	NSS 26.1 Cat 1 Core Vehicle Analysis			
	190	ATP			
	228	NSS 20.3.2 Preliminary Trajectory Analysis			
Contract Mod (LD)	Number	Description			
	244	Delay from 9/7/2007 to 10/7/2007			
	119	Delay from 9/30/06 to NET 2/28/07			
	155	Delay from 2/28/07 to NET 5/28/07			
	171	Delay from 5/28/07 to 9/7/07			
	289	Delay from 12/14/2007 to NET 1/31/2008	Delay from 12/14/2007 to NET 1/31/2008		
	301	Delay from NET 1/31/2008 to 2/5/2008			
	279	Delay from 10/7/2007 to 12/14/2007			
Task Assignments	Number	Description	Completion Date	Invoice Paid Date	
	NLSB-057	Rerun CLA	06/30/2003	10/16/2003	
	NLSB-074	Second re-run coupled load analysis	09/30/2003	06/01/2004	
	NLSB-091	CG Lateral Load limit vs. Mass analysis	01/31/2004	04/07/2004	
	NLSB-096	61 Pin Connector	06/30/2004	12/10/2004	
	NLSB-126	Distributed Aerodynamics Coefficiient	07/27/2004	12/10/2004	
	NLSB-137	TPAF Shipment & Inspection	12/06/2004	01/07/2005	
	NLSB-149	TPAF Inspection at GD/SASS	01/20/2005	03/08/2005	
	NLSB-185R2	Gas Budget Analysis	05/19/2006	06/26/2006	
	NLSB-188R1	TPAF mod to incorp switch pad	06/19/2006	08/21/2006	
	NLSB-204	2nd Stage AC Ducting (GSE shared with STSS)	08/01/2006		
	NLSB-206	PAF Cleaning	10/01/2007		
	NLSB-214	2nd Stage AC Ducting	09/2/2007		
	NLSB-236	Battery Cooling proposal Prep	12/01/2005	9/18/2006	
	NLSB-240	EMC/EMI Analysis	11/30/2006	01/19/2007	

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	NLSB-268	GLAST Special Instrumentation (no cost to GLAST mission budget)		
	NLSB-269	Drill Template Shipment (no cost)		
	NLSB-271	Special Instrumentation 6915 PAF (no cost to GLAST mission budget)		
	NLSB-275	Fairing Extension Cable Modification	09/14/2007	
	NLSB-296	TPAF Inspection	7/06/2007	
	NLSB-300	RS-27 Engine Pedigree Review	12/31/2007	
	NLSB-302	Additional ITA Effort	10/22/2007	
There are no PPF Contract	Mods			
There are no PPF Contract Contract Mod (Other)	Mods Number	Description		
		Description NSS 30.1 Flyout Costs		
	Number	·		



GLAST - Safety and Mission Assurance

Bob Henry

LAUNCH SERVICES PROGRAM Evidence of Completion Assurance Verification Areas Status In Work Complete Aug Sep Oct Quality Y \checkmark Software / Hardware Problems Continuing to monitor ULA-Boeing's response to Quality Management System risk. $\overline{\mathbf{v}}$ No GIDEPs at this time Alerts $\overline{\mathbf{v}}$ Audits/Inspections/Surveillances No Issues at this time V Limited Life Items No Issues at this time Reliability V FMEA/Fishbones/Equivalent Reliability data gathering task in process(No issues as of 10/11/07) \checkmark Reliability Assessments No significant issues Safety $\overline{\mathbf{A}}$ Requirements Definitions Tailoring in work V Range Safety & Mission Flight Rules Under Review NASA/AF $\overline{\mathbf{v}}$ Licenses/Use Authorizations In work $\overline{\mathbf{v}}$ Safety Documentation Final Draft of MSPSP under review V None identified to date Non-compliances V Contingency Planning Deliver prior to SARR Y Mission Assurance \checkmark Lessons Learned No issues $\overline{\mathbf{v}}$ First Flight/Mission Unique items No issues \checkmark Test/Qualification/Certification No issues V Mission Assurance Assessments Alenia 2nd-Stage Oxidizer Leak, tank assessment for 0 GLAST is in-work; ULA transition. \checkmark Risk Management No Issues 0



GLAST Comm & Telemetry

Marty Lougheed and Nathan Wood

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



NOAA-N' (Prime) Project Summary

LAUNCH SERVICES PROGRAM NOAA-N' (Prime) Mission 2009/02/01 Launch Date Sep Oct Aug Launch Vehicle Delta II OVERALL MISSION Launch Period Window TBD PPF 1610 MISSION MANAGEMENT Aug Sep Oct LAUNCH SITE Sep Oct SAFETY & MISSION ASSURANCE Sep Oct Aug Aug Observatory Status LSSP Mission Assurance Manifest/Range Customer Inputs Safety Integrated Schedule PPF Quality ICD Launch Site Unique 0 Reliability CDRLs (S/C & LSC) Spacecraft OPS BUSINESS **ENGINEERING** COMM & TELEMETRY Budget Launch Vehicle Communications Contracts Mission Specific Telemetry 0 0 0 Certification N/A N/A Mission Analysis LEGEND ERS/ERB Proceeding on Plan Launch PAD/GSE Area of Concern Mission Unique IV&V N/A N/A Significant Problem R Not Evaluated 0 DOWNRANGE TELEMETRY Not Applicable N/A

0

0

0

0

0

0

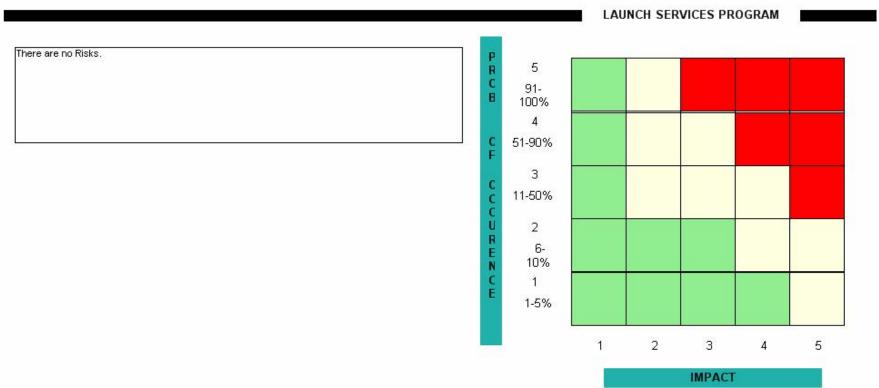
Ground Stations

Deployables

P-3/OTTR



NOAA-N' (Prime) - Open/Accepted Risks





NOAA-N' (Prime) - Actions / Issues / Concerns

	LAUNCH SERVICES PROGRAM	8
There are no Actions.		

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	2nd stage tank must be cleared for potential to leak. Near term tanks will be inspected per THEMIS procedure. WI held open until long term inspection procedure is established.	WI	11 Jul 06	16 Nov 07
Mission Management	0	EEB modification plan to meet cuatomer requiremeents has been submitted by ULA and evaluated by Engineering Selection and implementation plan in-work	WI	09/11/2007	11/30/2007



NOAA-N' (Prime) - Significant Events

Accomplished		
Final Payload Compatibility Drawing relased	15 June 06	
Draft Preliminary LSSP distributed	2 March 06	
PAF to GS fitcheck at Decatur	12 July 06-13 July 06	
RF Hazard Analysis	22 May 06	
ICD Released	21 June 06	
ARAR Initial Release	28 Feb 07	
MIWG #5 / GOWG #2 at SLC-2 B1628	20 mar 07-20 Mar 07	
Launch moved to Feb 1, 2009	31 Jan 07	
Launch Base Integrated Ops Team TIM	week of 6/25-26 June 06	
PAF to GS fitcheck 2 at Decatur	29 Aug 07-31 Aug 07	

Planned		
Preliminary LSSP Release	2 March 06-20 Oct 07	
ARAR Final Release	28 Sept 07-27 Oct 07	
Launch Base Integrated Ops Team Meeting	Dec 07	



NOAA-N' (Prime) Mission Management

Dave Breedlove

LAUNCH SERVICES PROGRAM

Mission Launch Date

Orbit Requirement

Launch Vehicle Class
Launch Period Window
PPF

M---

Mass (kg) PAD

NOAA-N' (Prime)
2009/02/01
Alt./7237 km / Incl- 98.73 deg
Delta II
TBD
1610
(SC + PAF)
SLC-2

Observatory Status
Observatory Status

Schedule Budget

Deliverables

Testing ATLO

Instrument

Aug	Sep	Oct
G	8	G
6	G	-6
G	6	G
G	6	G
G	6	G
G	6	G
G	8	G

Mission Center:

Program:

РМ

LVI

MM IE

LSIM

PIM MAM

MCE MTE GSFC NOAA - POES

Wayne McIntyre Jerry Nagy

Dave Breedlove
Eric Poole
Tricia Fertig
Walner Thervil
Ken Hale
Ralph Mikulas

Mike Patton

×

ICD	6

SIG	NED SCNS:	SCNS IN REVIEW		
SCN#	DATE SIGNED	SCN#	DATE SIGNED	
001	09/29/2006	006		
002	09/29/2006	007	in review	
003	09/29/2006		2V :	
004	09/29/2006	1		
005	09/29/2006	1		
008	08/06/2007	1		
009	08/08/2007	1		

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC) Manifest/Range

Ground Stations

Deployables P-3/OTTR

G	G	G
G	G	G
G	G	G
D	0	0
D	0	0
٥	0	0

October 18, 2007



NOAA-N' (Prime) - Engineering

Eric Poole

	Aug	Sep	Oct
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	G	G	G
Certification	0	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFICA	TION STATUS
NUMBER OF REQUIREMENTS	131
VERIFIED TO DATE	0
LAUNCH PAD / GSE MODS (IF APPLICABLE)
There are none.	
MISSION UNIQUE STUDIES (IF APPLICABLE)
	**



NOAA-N' (Prime) - Mission ERB Status

Eric Poole

		ERB Req?		Req?		Board I	Held?		Closure	
R/Y/G	ERS#	TITLE	Υ	N	Υ	N	N/A	Al	ENG.	OCE
G	06-046	NOAA-N' ICD review	\square		\square					
G	07-177	NOAA-N Prime Dual Inhibits Waiver	\square							



NOAA-N' (Prime) - Vehicle ERB Status

Eric Poole

			ERB Req? Board Held?		Closure					
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	Al	ENG.	OCE
G	05-378	RS-27 Engine-51 Hoop/Band Separation	☑		\square					
G	07-215	Second Stage Tank FM-21 HAR					\square			



NOAA-N' (Prime) - Launch Site

Tricia Fertig

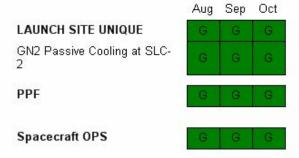
LAUNCH SERVICES PROGRAM

Aug	Sep	Oct
G	G	G
	Aug	Aug Sep

LSSP	Planned	Released
Preliminary	12/1/2007	<i>z c</i>
Baseline	7/1/2008	<i>z</i> - 0

	Aug	Sep	Oct
CUSTOMER INPUTS	G	G	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS



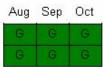


NOAA-N' (Prime) - Business

Walner Thervil

LAUNCH SERVICES PROGRAM

Budget Contracts



Milestone	Date
Milestone 1	6/30/03
Milestone 2	4/30/04
Milestone 3	5/1/06
Milestone 4	8/1/05
Milestone 5	11/1/05
Milestone 6	3/1/06
Milestone 7	7/1/06
Milestone 8	12/1/07
Milestone 9	2/1/09

Open Milestone Payment
Paid Milestone

	Contract Status						
Number	Description						
157	Add launch readiness date of October 31, 2006 and requ						
72	Mission ATP w/ NSS 27.1 Western Range Launch & MUS 9.1 One-time Multi Trajectory/f Azimuth Scope Reduction						
80	Customized payment schedule						
258	Request NSS 25.2.1 Monthly Storage and NSS 25.2.2 (Request NSS 25.2.1 Monthly Storage and NSS 25.2.2 (CY08 and CY09) per Vehicle Cha					
Number	Description						
82	Launch Delay from 06/03/2005 to 10/30/2005						
93	Launch Delay from 10/30/2005 to 01/30/2006						
117	Launch Delay from 01/30/2006 to NET 12/2007						
274	Launch Delay from NET 12/2007 to 02/1/2009						
Number	Description	Completion Date	Invoice Paid Date				
ML-029	Compat wit4h Delta II Review - NOAA-N'	1/2/1997	2/3/1997				
NLSB-232 R3	Access platform concept study	4/30/2007	7/10/2007				
NLSB-238 R1	Explosion-proof telephone at SLC-2	11/15/2006	11/20/2006				
NLSB-252 R2	EEB Temperature Control Concept Study	07/01/2007					
NLSB-267	Vehicle Modification for Payload fairing Re-Radiation System	01/01/2009					
Mods	'	-					
t Mods							
	157 72 80 258 Number 82 93 117 274 Number ML-029 NLSB-232 R3 NLSB-238 R1 NLSB-252 R2	Number Description 157 Add launch readiness date of October 31, 2006 and requested for the second form of t	Number Description 157 Add launch readiness date of October 31, 2006 and request storage prices 72 Mission ATP w/ NSS 27.1 Western Range Launch & MUS 9.1 One-time Mul Azimuth Scope Reduction 80 Customized payment schedule 258 Request NSS 25.2.1 Monthly Storage and NSS 25.2.2 (CY08 and CY09) pe Number Description 82 Launch Delay from 06/03/2005 to 10/30/2005 93 Launch Delay from 10/30/2005 to 01/30/2006 117 Launch Delay from 01/30/2006 to NET 12/2007 274 Launch Delay from NET 12/2007 to 02/1/2009 Number Description ML-029 Compat wit4h Delta II Review - NOAA-N' 1/2/1997 NLSB-232 R3 Access platform concept study 4/30/2007 NLSB-252 R2 EEB Temperature Control Concept Study 07/01/2007 NLSB-267 Vehicle Modification for Payload fairing Re-Radiation 01/01/2009				



NOAA-N' (Prime) - Safety and Mission Assurance

Ken Hale

			and to \$400 at 7.05 at 6.12 at 5.00 at			
Assurance Verification Areas		atus	Evidence of Completion			
	Complete	In Work		Aug	Sep	Oct
Quality				Y	Υ	Y
Software / Hardware Problems		$\overline{\mathbf{v}}$	Tracking Alenia tank issues	Υ	Υ	Υ
Alerts		$\overline{\mathbf{Z}}$	No significant issues being tracked.	G	G	G
Audits/Inspections/Surveillances		$\overline{\mathbf{v}}$	No significant issues being tracked.	G	G	G
Limited Life Items		$\overline{\checkmark}$	No significant issues being tracked.	G	G	G
Reliability				G	G	G
FMEA		☑	No significant issues being tracked	G	G	G
Reliability Assessments		☑	S/C RF inhibit reliability review is complete. SMA agrees with the GSFC assessment. Negligable impact to the overall Launch Vehicle reliability.	G	G	G
Safety				G	G	G
Requirements Definitions		☑	S/C RF inhibit assessment is complete. Safety agrees with proceeding with ICD waiver to dual RF inhibit requirement.	G	G	6
Range Safety & Mission Flight Rules		$\overline{\mathbf{v}}$	No significant issues being tracked	G	G	G
Licenses/Use Authorizations			No significant issues being tracked	G	0	G
Safety Documentation		$\overline{\mathbf{v}}$	Spacecraft ARAR review complete.	G	G	G
Non-compliances		\square	No significant issues being tracked	G	G	G
Contingency Planning		$\overline{\checkmark}$	No significant issues being tracked	G	G	G
Mission Assurance				Υ	Υ	Υ
Lessons Learned		abla	Will evaluate previous Delta II LL (esp. NOAA-N)	G	G	G
First Flight/Mission Unique items		$\overline{\mathbf{v}}$	First Flight Items to be identified	G	G	G
Test/Qualification/Certification		$\overline{\mathbf{v}}$	Qual changes to be identified	G	G	G
Mission Assurance Assessments		$\overline{\mathbf{A}}$	Tracking Alenia tank issues	Y	Υ	Υ
Risk Management		☑	Alenia tanks are yellow for Delta-II. Tank assigned to NOAA-N' will be evaluated along with any potential risk. Mission Assurance agrees with proceeding with ICD waiver to dual RF inhibit requirement.	Υ	Y	Υ



NOAA-N' (Prime) Comm & Telemetry

Ralph Mikulas and Mike Patton

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Aug	Sep	Oct
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



NPP Project Summary

NPP Mission 2009/04/30 Launch Date Launch Vehicle Delta II Launch Period Window Daily Commercial PPF PPF

OVERALL MISSION

LAUNCH SERVICES PROGRAM

Sep Oct Aug

MISSION MANAGEMENT

Observatory Status Manifest/Range

Integrated Schedule

ICD

CDRLs (S/C & LSC)

Aug	Sep	Oct
Y	Υ	Υ
Υ	Υ	Υ
Y	Υ	Υ
0	Υ	Υ
G	Υ	Υ

LAUNCH SITE

LSSP Customer Inputs PPF

Launch Site Unique Spacecraft OPS

Oct Sep Y

SAFETY & MISSION ASSURANCE

Mission Assurance

Safety Quality

Reliability

Aug	Sep	Oct		
Υ	Υ	Υ		
G	G	G		
Υ	Υ	Υ		
G	G	G		

ENGINEERING

Launch Vehicle Mission Specific

Mission Analysis

ERS/ERB

Certification

Launch PAD/GSE

Mission Unique IV&V

	0.5	
0	٥	0
0	٥	0
0	٥	0
D	٥	0
D	٥	0
0	٥	0
0	0	0

COMM & TELEMETRY

Communications

Telemetry

G	G	G
٥	0	0

BUSINESS

Budget

Contracts

G	G	8
G	G	G

DOWNRANGE TELEMETRY

Ground Stations Deployables P-3/OTTR

D	0	0
0	0	0
0	0	0

LEGEND

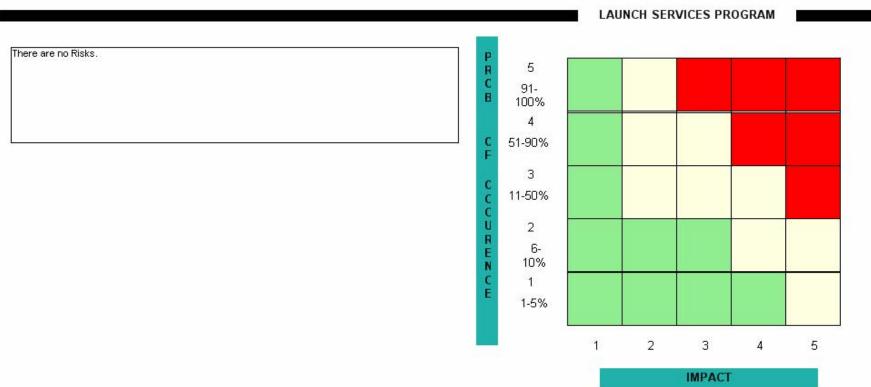
Proceeding on Plan Area of Concern Significant Problem

Not Evaluated Not Applicable





NPP - Open/Accepted Risks





NPP - Actions / Issues / Concerns

100

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	0	Separation switches are not clocked per the standard location; they are rotated 90 degrees	WI		
Engineering	0	Potential VLC disconnect	WI		
Business	0	Launch has delayed to 04/2009 timeframe. Need to assess cost impact to include shelf life (19 pack period of perf.) last users of Delta II pads, and other issues. Additional delay to NET 9/09 likely.	VVI	08/01/2006	09/30/2007
Mission Management	0	IRD is in rough draft form and inadequate in detail to develop a decent draft ICD.	WI	01/01/2007	10/31/2007



NPP - Significant Events

Accomplished			
Early CLA			
Preliminary IRD received, latest rev March 2005			
Kick off meeting			
Fairing Door inputs	8		
S/C Mission Ops Review	08/15/2005-08/17/2005		
Fairing Clearance analysis and Compatibility Drawing Review comple			
Program Meeting at GSFC	4 Oct 07		

Planned	
Final IRD based on an estimated 9/2009 LRD	09/28/2007
Preliminary ICD release	01/31/2008



NPP Mission Management

Bruce Reid

LAUNCH SERVICES PROGRAM

Mission

Launch Date

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg)

PAD

	NPP
	2009/04/30
196	deg. flight azimuth
	Delta II
	Daily
С	ommercial PPF
	2206 kg
	Other

Observatory Status

Observatory Status

Schedule

Budget

Deliverables

Testing

ATLO

Instrument

Aug	Sep	Oct
Υ	Y.	Υ
Y	Y	Y
G	6	G
G	Y	Υ
G	Y	Υ
G	Y	Υ
	100	

Mission Center:

Program:

PM

LVI

MM

IE LSIM

PIM

MAM

MCE MTE GSFC EOS-NPOESS

Ken Schwer T.Jones / S.Antoniak

Bruce Reid Sarah LeValley Tricia Fertig Benjamin Studenski Ken Hale Ralph Mikulas



ICD



There are no signed There are no SCNs in Review

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC)

Manifest/Range

Ground Stations

Deployables P-3/OTTR

Υ	Υ	Υ
G	Υ	Υ
Υ	Υ	Υ
D	0	0
D	0	D
0	0	0



NPP - Engineering

Sarah LeValley

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
Launch Vehicle	0	0	0
Payload Fairing	0	0	0
First Stage	0	0	0
Second Stage	0	0	0
Third Stage	0	0	0
Payload Attach Fitting	0	0	0
Other	0	0	0
Mission Specific	0	0	0
Certification	0	0	0
Mission Analysis	0	0	0
ERS/ERB	0	0	0
Launch PAD/GSE	0	0	0
Mission Unique IV&V	0	0	0

REQUIREMENT VERIFI	CATION STATUS
NUMBER OF REQUIREMENTS	0
VERIFIED TO DATE	0

LAUNCH PAD I GSE MODS (IF APPLICABLE)	
There are none.	

MISSION UNIQUE STUDIES (IF APPLICABLE)

There are none.



NPP - Mission ERB Status

Sarah LeValley

			ERB	Req?		Board I	teld?		Closure	
R/Y/G	ERS#	TITLE	Υ	N	Υ	N	N/A	Al	ENG.	OCE
0	04-17	NPP MECO Assessment				N	N			



NPP - Vehicle ERB Status

Sarah LeValley

I ATTAC	H SERVIC	CC DDC	CDAR
I Alini	H >FRVII	FYPRI	$H_{\alpha} R \Delta N$

There are no Vehicle ERBs for this mission.



NPP - Launch Site

Tricia Fertig

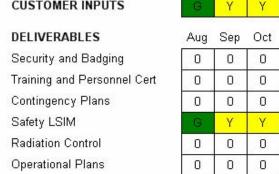
LAUNCH SERVICES PROGRAM

Aug Sep Oct

LSSP G Y Y

LSSP	Planned	Released
Preliminary	12/2007	
Baseline	10/2008	

Baseline	10/2008
	Aug Sep Oct
CUCTOMED INDUTE	



UNIQUE REQUIREMENTS

	Aug	Sep	Oct
LAUNCH SITE UNIQUE	G	G	G
PPF	G	Υ	Υ

Spacecraft OPS G G G

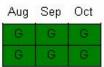


NPP - Business

Benjamin Studenski

LAUNCH SERVICES PROGRAM

Budget Contracts



Milestone	Date
Milestone 1	07/31/2004
Milestone 2	10/31/2004
Milestone 3	01/31/2005
Milestone 4	04/30/2005
Milestone 5	12/01/2005
Milestone 6	04/30/2008
Milestone 7	07/30/2008
Milestone 8	10/30/2008
Milestone 9	01/30/2009
Milestone: 10	04/30/2009

		Contract Status			
Launch Services					
Contract Mod	Number	Description			
	062	NSS 20.3.3: Quick Turnaround Coupled Load Analysis			
	084	NSS 9.1.1: Two 61 Pin Electric Interface from Fairing to Payload			
	162	MU (1): Remove Re-Radiating System from Mission Uniques			
	141	NSS 10.1: Remove camera NSS			
Contract Mod (LD)	act Mod (LD) Number Description				
	171	Delay from 10/31/06 to NET 3/1/07			
	206	Delay from 3/1/07 to 4/30/09			
Task Assignments	Number	Description	Completion Date	Invoice Paid Date	
	NLSB-121	TPAF Mods	11/26/2004	12/02/2004	
	NLSTO-037R1	CLA Time Histories	10/31/2003	11/30/2003	
There are no PPF Contract	Mods				
Contract Mod (Other)	Number	Description			
	057	Flyout costs			
	085	Flyout costs			
	125	Flyout costs			
Issues					
G Equitable Adju	stment amount being ne	egotiated for launch delay to 4/30/2009			



NPP - Safety and Mission Assurance

Ken Hale

LAUNCH SERVICES PROGRAM Evidence of Completion Assurance Verification Areas Status In Work Complete Aug Sep Oct Quality Y \checkmark Software / Hardware Problems Y Y Y Tracking Alenia tank issues \checkmark Alerts No significant issues being tracked \checkmark Audits/Inspections/Surveillances No significant issues being tracked V Limited Life Items No significant issues being tracked Reliability $\overline{\mathbf{v}}$ FMEA/Fishbones/Equivalent No significant issues being tracked V Reliability Assessments No significant issues being tracked Safety \checkmark Requirements Definitions No significant issues being tracked \checkmark Range Safety & Mission Flight Rules No significant issues being tracked V Licenses/Use Authorizations No significant issues being tracked \checkmark Safety Documentation No significant issues being tracked $\overline{\mathbf{v}}$ No significant issues being tracked Non-compliances $\overline{\mathbf{Z}}$ No significant issues being tracked Contingency Planning Mission Assurance Y Y Y $\overline{\mathbf{v}}$ Lessons Learned Previous Delta II LL to be reviewed $\overline{\mathbf{v}}$ First Flight/Mission Unique items First Flight items to be identified \checkmark Test/Qualification/Certification Qualification changes to be identified V Mission Assurance Assessments Tracking Alenia tank issues Y Y V Alenia tanks are yellow for Delta II. NPP tank to be Risk Management assessed along with any residual risk.



NPP Comm & Telemetry

Ralph Mikulas and Tuan Doan

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

۱ug	Sep	Oct
0.000		

-100000	1.57	
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

9		
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
-	- 0	0

0

0

Aug Sep Oct



IBEX Project Summary

John F. Kennedy Space Center

LAUNCH SERVICES PROGRAM Aug Sep

Mission IBEX
Launch Date 2008/06/15
Launch Vehicle Pegasus
Launch Period Window Determined by Arg. of Perig
PPF 1555

MISSION MANAGEMENT
Observatory Status

Manifest/Range Integrated Schedule

ICD

CDRLs (S/C & LSC)

Aug	Sep	Oct
G	G	G
Υ	Υ	Υ
G	G	6
G	G	G
G	G	G

LAUNCH SITE

LSSP Customer Inputs

PPF

Launch Site Unique Spacecraft OPS

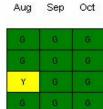
Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
Υ	Υ	Υ
G	G	G

SAFETY & MISSION ASSURANCE

OVERALL MISSION

Mission Assurance Safetγ

Quality Reliability



Oct

ENGINEERING

Launch Vehicle Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

G	G	6
Y	Υ	Υ
N/A	N/A	N/A
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A

COMM & TELEMETRY

Communications

Telemetry

040		
G	G	G
G	G	G

BUSINESS

Budget

Contracts

ß	G	G
6	G	8

LEGEND

Proceeding on Plan
Area of Concern

Significant Problem

Not Evaluated

Not Applicable



DOWNRANGE TELEMETRY

Ground Stations

Deployables

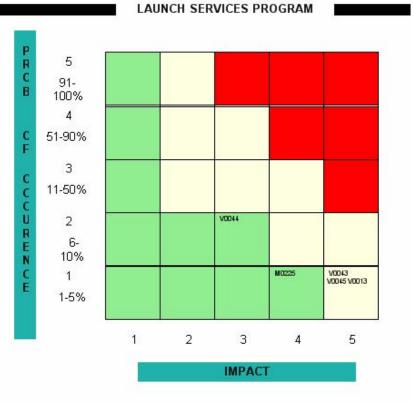
P-3/OTTR

D	0	0
0	0	0
0	0	0



IBEX - Open/Accepted Risks

	5	Condition
RYG Trend	RiskID	Consequence
0	V0013	Suspected asymmetric lateral moments encountered at high angle of attack near MACH-1
		Loss of vehicle control
G	M0225	The IBEX Program NTE mass exceeds current Pegasus maximum capability to the desired insertion orbit from Kwajalein
		Miss injection orbit or upgrade vehicle (Taurus) or cancellation
0	V0043	LS SMA has noted various deficiencies within Orbital Science Corporations Quality Management System
		These quality management system deficiencies increase the likelihood that undetected technical problem(s) are present on the flight hardware.
100	√0045	Delamination within Orion nozzle ECL on non-NASA vehicle
0		Adverse heating of structural components leading to nozzle failure
0	∨0044	Qualification failures of the frangible ring assembly during ambient and high temperature functionality test
		Degradation of mission performance due to sections of un-fractured joint causing unclean separation of the payload fairing.





IBEX - Actions / Issues / Concerns

	LAUNCH SERVICES PROGRAM	
There are no Actions.		

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Mission Management	0	Launch management for Kwaj campaign	WI	05/01/2006	
Engineering	0	Impact of induced loads from S1/S2 ignition events Initial CLA showed positive margins. Will continue to monitor throughout coupled loads cycles.	WI	09/01/2005	
Engineering	0	S/C performance requirements exceed current LV capability.	WI	10/01/2005	
Engineering	0	Mission unique requirements for spinning (58-60 rpm) separation, motorized lightband sep system, maximized vehicle performance, and triple component payload	WI	05/01/2006	



IBEX - Significant Events

Accomplished			
IBEX MUPDR	09/20/2006-09/20/2006		
IBEX CDR	09/12/2006-08/18/2006		
MIWG#4/RWG#1 at Kwajalein	10/20/2006-10/27/2006		
MUCDR	03/20/2007-03/20/2007		
Mission Integration TIM	12/6/2006-12/6/2007		
Preliminary Mission Analysis	05/16/2007-08/16/2007		
MIWG #5/RWG#2 at VAFB	05/22/2007-05/23/2007		
Delta MUCDR	08/29/2007-08/29/2007		

Planned	
PDU Testing	12/06/2007- 12/19/2007
Safety Working Group (SWG) Reconvene in Dulles	10/30/2007- 10/30/2007



IBEX Mission Management

John Calvert

LAUNCH SERVICES PROGRAM

Mission	
Launch	Date

Orbit Requirement

Launch Vehicle Class
Launch Period Window

PPF

Mass (kg) PAD

	IBEX
	2008/06/15
200k	m target circular, 11 deg
	Pegasus
Dete	rmined by Arg. of Perig
	1555
	482.6
	Kwajalein

Observatory Status
Observatory Status
Schedule
Budget
Deliverables
Testing

Aug	Sep	Oct
G	G	6
6	Υ	6
G	6	G
G	6	6
G	G	6
0	0	0
6	6	6

Program: PM LVI MM IE LSIM PIM MAM MCE MTE

Mission Center:

GSFC	
Explorers	
G. Frazier (GSFC) Scherrer (SwRI)	

Mark Phillips

John Calvert
John Battcher
Jeffrey Ehrsam
Ken Carr
Michael Johnson
Ralph Mikulas
Tuan Doan

	Aug	Sep	Oct
ICD	G	G	G

There are no signed	There are no SCNs in		
SCNs	Review		

<u>Launch Veh</u>	<u>ricle</u>
<u>Status</u>	
Integrated	Sche

ATLO

Instrument

Integrated Schedul
CDRLs (S/C & LSC)
Manifest/Range

Ground Stations
Deployables
P-3/OTTR

G	G	G
G	G	G
Υ	Υ	Υ
0	0	0
0	0	0
0	0	0



IBEX - Engineering

John Battcher

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	G	G	G
Payload Attach Fitting	N/A	N/A	N/A
Other	N/A	N/A	N/A
Mission Specific	Y	Υ	Υ
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

NUMBER OF	0
REQUIREMENTS	
VERIFIED TO DATE	0

MISSION UNIQUE STUDIES (IF APPLICABLE) There are none.



IBEX - Mission ERB Status

John Battcher

			ERB	Req?	0	Board Held?		Closure		
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	AI	ENG.	OCE
0	05-382	IBEX ICD Review			\square					
0	06-047	IBEX Payload Isolation System		\square						
0	06-067	Pegasus Mission Unique PDR for IBEX			Ø			Ø		
0	05-292	Pegasus/IBEX Performance Enhancement Studies		☑		☑	☑		☑	
0	06-368	Pegasus/IBEX Mission Unique CDR			\square					



IBEX - Vehicle ERB Status

John Battcher

3	,		ERB Req? Board Held?		Closure					
R/Y/G	ERS#	TITLE	Υ	N	Υ	N	N/A	Al	ENG.	OCE
0	04-339	Pegasus - Fin Material Manufacturing	\square			V				
0	05-224	Pegasus Igniter Qualification - Pegasus S2								



IBEX - Launch Site

Jeffrey Ehrsam

LAUNCH SERVICES PROGRAM

Aug Sep Oct

G G G

LSSP	Planned	Released
Preliminary	02/19/2007	06/15/07
Baseline	11/19/2007	7 V

	Aug	Sep	Oct
CUSTOMER INPUTS	G	G	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

LAUNCH SITE UNIQUE

Spin table not available at VAFB; Orbital to provide table from Dulles, VA

Contingency hydrazine support at RTS

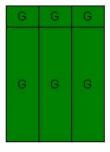
Range Safety approval for spin balance

PPF

IBEX Principle Investigator requests a low cost PPF; considers commercial PPF cost excessive for SMEX mission; On 29 Nov 2006, IBEX delivered a formal concurrence to use a comercial PPF.

Spacecraft OPS







IBEX - Business

Ken Carr

LAUNCH SERVICES PROGRAM

Open Milestone Payment

Paid Milestone

Budget Contracts

Aug	Sep	Oct
G	G	G
G	G	G

Milestone	Date
Milestone 1A	11/1/03
Milestone 1B	9/1/04
Milestone 1C	11/1/04
Milestone 1D	1/1/05
Milestone 2A	9/15/05
Milestone 2B	12/15/05
Milestone 3	8/15/06
Milestone 4	3/15/07
Milestone 5	7/15/07
Milestone 6	1/15/08
Milestone 7	3/15/08
Milestone 8	5/15/08
Milestone 9	8/15/08

Contract Status Launch Services				
	Mod 11	Launch Delay from 8/15/07 to 6/15/08		
	Mod 13	KWAJ launch site option		
	Mod 13	Multiple Non-standard services		
	Mod 25	Mission Unique Performance enhancements		

Task Assignments	Number	Description	Completion Date	Invoice Paid Date
	SP-23.001	Coupled Loads Analysis		
	SP-23.002	Separation Analysis		
	SP-23.003	Vehicle Enhancement Study		
	SP-23.004	Separation Analysis		
	SP-23.005	Trajectory & Controls Analysis		
	SP-23.006	Soft-Ride Feasability Study		
	SP-23.007	Early System Safety Support		
	SP-23.008	RF Compatibility Analysis		
	SP-23.009	IBEX CDR support		
	SP-23.011	IBEX Performance Study - Low Altitude Target		
	SP-23.012	Battery Health Check		
	SP-23.013	PDU Testing		
	SP-23.014	ST 2005 Transmitter study		
	SP-23.015	RCS Venting		
	SP-23.016	Mass Dispersion Study		
There are no PPF Contract	t Mods			
There are no Other Contrac	ct Mods			
There are no Issues.				



IBEX - Safety and Mission Assurance

Michael Johnson

LAUNCH SERVICES PROGRAM Evidence of Completion Assurance Verification Areas Status In Work Complete Aug Sep Oct Quality \checkmark Software / Hardware Problems Y No issues at this time V Alerts No issues at this time. V Audits/Inspections/Surveillances No issues at this time. V Limited Life Items No issues at this time. Reliability \checkmark MU/FF items under review **FMEA** No FMEA/Fishbones/Equivalent have been identified $\overline{\mathbf{v}}$ Reliability Assessments No issues at this time. Safety \checkmark In Work (Range Safety). Requirements Definitions V Range Safety & Mission Flight Rules Governing docs - 30th & Kwaj. O2J initiators under scrutiny - keeping an eye on usage. $\overline{\mathbf{v}}$ Licenses/Use Authorizations No issues at this time. \checkmark Safety Documentation In Work - Tailor Safety doc for Kwaj launch $\overline{\mathbf{v}}$ Non-compliances Waivers/Deviations/Exceptions $\overline{\mathbf{v}}$ Contingency Planning Distribute prior to SARR Mission Assurance V Lessons Learned No issues at this time. \checkmark First Flight/Mission Unique items No issues at this time $\overline{\mathbf{v}}$ Test/Qualification/Certification No issues at this time $\overline{\mathbf{v}}$ Mission Assurance Assessments No issues at this time \checkmark Risk Management Risk identification and surveillance sufficient for project at this time



IBEX Comm & Telemetry

Ralph Mikulas and Tuan Doan

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Checkout

Console Configuration

Aug	Sep	Oct
G	G	G
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



GLORY Project Summary

GLORY Mission Launch Date 2008/12/15 Launch Vehicle Taurus Launch Period Window TBD Commercial PPF PPF MISSION MANAGEMENT Sep Oct LAUNCH SITE Observatory Status LSSP

Customer Inputs

Launch Site Unique

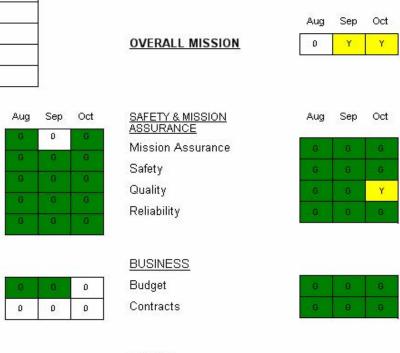
COMM & TELEMETRY

Spacecraft OPS

Communications

Telemetry

PPF



LAUNCH SERVICES PROGRAM

Launch Vehicle	G	G
Mission Specific	G	G
Certification	Y	Υ
Mission Analysis	G	Υ
ERS/ERB	0	G
Launch PAD/GSE	G	G

G	G	G
G	G	G
Υ	Υ	Υ
G	Υ	G
D	G	G
G	G	N/A
D	0	0

0

Y

LEGEND
Proceeding on Plan
Area of Concern
Significant Problem
Not Evaluated
Not Applicable

	G	
	Y	
	R	
83	0	9
١	1/	A

DOWNRANGE TELEMETRY

Ground Stations Deployables

Mission Unique IV&V

Manifest/Range

ICD

Integrated Schedule

CDRLs (S/C & LSC)

ENGINEERING

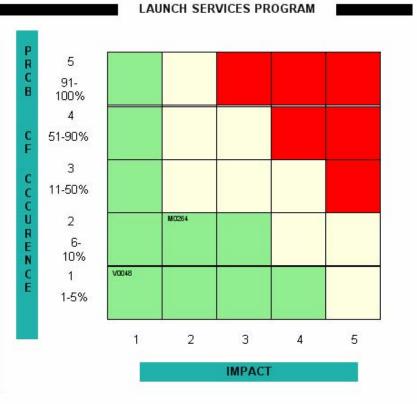
P-3/OTTR

0	G	G
0	G	G
0	G	G



GLORY - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
0	V0048	Failure analysis of a Pacific Scientific PN 107800-201 detonator (SN 4498) that failed service life extension testing uncovered a manufacturing process vulnerability in which detonators could be reworked and inadvertently returned to production without the correct load of explosive material.
		Failure to initiate third stage ignition or FTS destruct ordnance chain on command.
	M0264	The OCO and Glory payload fairing (PLF) production schedules are ahead of the Ballast ring Mission Unique Design Reviews. The outcome of the ballast ring design process impacts the location of the PLF doors which will be described in the Mechanical ICD.
0		If the ballast ring design changes as an outcome of the design review process, the OCO and Glory PLF door cutouts (as defined in the MICD change) may not be located in the correct position to support S/C access after PLF installation. Or, if the MICD is not approved by NASA, cost and schedule of PLF manufacturing may be impacted.





GLORY - Actions / Issues / Concerns

	LAUNCH SERVICES PROGRAM	
There are no Actions.		Ĩ

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	Glory electrical requirements at the pad are similar to OCO and also need the facility modification in work for OCO. Make sure modification covers both S/C needs.		04/17/2007	05/31/2008
Engineering	Υ	OCO and Glory are currently manifested for the same month. This will cause issues with deliverables and resources within Orbital. Currently working each delivery conflict on case by case basis. Decision from FPB expected by Dec 1 2007.	WI	04/17/2007	12/01/2007
Mission Management	R	Glory has indicated there is currently inadequate budget to fund APS cost growth, this could cause an impact to schedule. Glory still holding to current launch date with this issues	WI	04/11/2007	
Engineering	G	The current schedule for the next CLA with the ballast ring are to be completed on Jan. 2008.	WI	8/30/07	1/31/08
Engineering	G	At the MUPDR, LSG reported that with the addition of the 22 inch ballast ring, a portion of the s/c radiator panel intrudes into the fairing standard static envelope. This item will remain open until a dynamic clearance analysis is performed, results of which will reported at the MUCDR in January 2008.	WI	8/28/2007	1/31/2008
Business	G	LSG has agreed the ITA can be up to 8000 nodes as long as it is in Desktop format. S/C has delivered model and it is in review by LSP and estimated to be delivered to LSG by Oct 19 2007	WI	08/01/2007	10/19/2007



GLORY - Significant Events

Accomplished	
Received update SC model and LSP is performing a base drive analysis. Inputs for LSG received 4/16/2007. Inhouse done and in-work comparing results to LSG and Swales analysis. Difficulties getting data to GSFC	1/31/07-07/31/2007
MIWG held at KSC on March 14.	03/14/2007-03/14/2007
S/C updated mass properties	07/06/2007-7/24/2007
Contract Mod for ballast ring turned on	06/22/2007-7/24/2007
ICD PEER review and ERB	07/25/2007-08/13/2007
Ballast Ring MUPDR	08/28/2007-8/28/07
CLA mission analysis for all 3 requested load cases using the old model were received and sent to s/c in support of their environmental test review for the instrument.	8/25/07-8/28/07
Received payload processing proposals and evaluated them. Discussions with offerors in response to questions generated scheduled for w/o 9/10.	9/5-9/7

Planned	
S/C updated Step model and updated Loads model received by KSC. Getting software to view Cad model. Loads model reviewed and provided to LSG.	07/06/2007- 07/30/2007
Master ICD, EICD (with ICP001 (not yet signed), and MICD (with ICP001) baselines have been has been signed except as noted by the s/c and LSP.	06/25/2007- 10/26/2007
PMA inputs received. PMA is in work.	8/23/07-10/17/07
MIWG/GOWG at VAFB, delayed from Nov due to uncertainty on PPF processing location. Decesion for new time/location to be made in early Nov.	11/28/07-11/28/07
T8/T9 MUCDR	1/31/08
Next interation of MU pad electrical upgrade expected.	1/1/08-1/31/08
Shock test on bus level only has been eliminated at request of S/C	12/7/07-10/17/2007
T8/T9 MUSAR	8/28/08
S/c thermal model (8k nodes) to be delivered to LSG this month.	08/01/2007- 10/19/2007
CLA with the new s/c model (received in Oct 16 2007) will start after the OCO CLA is complete. The OCO CLA is currently in work and planned to be complete in the beginning of November. LSG needs Glory CLA by mid Oct 2007	11/07/2007- 01/31/2008
Reviewed SOW for use of PPODS on OCO/Glory missions.	08/24/2007- 10/31/2007



GLORY Mission Management

Garrett Skrobot

LAUNCH SERVICES PROGRAM

Mission Launch Date

Orbit Requirement

Launch Vehicle Class
Launch Period Window
PPF

Mass (kg) PAD

	GLORY
	2008/12/15
640	km/98.189 degree inclination
	Taurus
	TBD
С	ommercial PPF
	528 kg (TB
	567E

Observatory Status Observatory Status

Schedule Budget

Deliverables

Testing ATLO

Instrument

Aug	Sep	Oct
0	R	R
0	R	R
G	6	G
0	6	G
0	6	G
0	6	G

Mission Center:

Program:

PM LVI

ММ

IE LSIM

PIM MAM

MCE MTE

GSFC	
ESSP	

Bryan Fafaul John Satrom

	Garrett Skrobot	
	Sarah LeValley	
	Mark Mertz	
	Ken Carr	
5	Laura McDaniel	
	Mike Patton	
	Nathan Wood	









SIG	NED SCNS:	SCNS IN REVI				
SCN#	DATE SIGNED	SCN#	DATE SIGNED			
MICD ICP1	10/10/2007	EICD ICP1				

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC)

Manifest/Range

Ground Stations Deployables

P-3/OTTR

0	Υ	γ
D	G	G
0	G	G
D	G	G
D	G	G
0	G	G



GLORY - Engineering

Sarah LeValley

	Aug	Sep	Oct
Launch Vehicle	G	G	G
Payload Fairing	G	Υ	N/A
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	G	G	G
Payload Attach Fitting	G	G	G
Other	0	0	0
Mission Specific	G	G	G
Certification	Υ	Υ	Υ
Mission Analysis	G	Υ	G
ERS/ERB	0	G	G
Launch PAD/GSE	G	G	N/A
Mission Unique IV&V	0	n	Ω

0
0
APPLICABLE)

MISSION UNIQUE STUDIES (IF APPLICABLE)					
TA029 Glory Random Vibration Analysis					
Glory/OCO Ballast Ring					



GLORY - Mission ERB Status

Sarah LeValley

			ERB Req?		0	Board	Held?	0	Closure	1
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	Al	ENG.	OCE
0	05-381	GLORY Spacecraft Questionnaire		☑						
0	06-388	Taurus T8/T9 RCS Moment Arm Issue	☑		\square					
0	07-27	S/C shock test (Taurus missions) using Flight PAF		Ø		☑	☑		Ø	
0	07-80	Incorrect Holes Drilled in Critical GSE Separation Test Ring		☑		\square	\square		☑	
0	07-189	T8/T9 Ballast Ring MUPDR								
0	07-259	Glory ICD Review	☑		☑					



GLORY - Vehicle ERB Status

Sarah LeValley

			ERB Req?		ERB Req?			Board I	Held?	7	Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	Al	ENG.	0CE		
0	05-052	SBS/OR Heritage Flight Computer Life Extension	☑			☑						
0	05-224	Pyrogen Igniter Qualification- Pegasus S2	Ø		\square				Ø			



GLORY - Launch Site

Mark Mertz

LAUNCH SERVICES PROGRAM

Aug Sep Oct

LSSP G 0 G

LSSP	Planned	Released		
Preliminary	07/2007	7/2007		
Baseline	04/2008			

	Aug	Sep	Oct
CUSTOMER INPUTS	G	G	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	G	G	G
Operational Plans	G	G	G

UNIQUE REQUIREMENTS



GLORY - Business

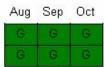
Ken Carr

LAUNCH SERVICES PROGRAM

Open Milestone Payment

Paid Milestone

Budget Contracts



Milestone	Date
Milestone 1	11/15/2005
Milestone 2a	02/15/2006
Milestone 2b	06/15/2006
Milestone 3a	10/15/2006
Milestone 3b	12/15/2006
Milestone 4	03/15/2007
Milestone 5	08/15/2007
Milestone 6	11/15//2007
Milestone 7	06/15/2008
Milestone 8a	09/15/2008
Milestone 8b	11/15/2008
Milestone 9	02/15/2009

	Contract Status		
Number	Description		
17	NSS Intrument purge & Payload Isolation System		
22	Ballast Ring for launch vehicle		
1ods			
Number	Description	Completion Date	Invoice Paid Date
SP-071	Taurus Isolation Random Vibe Environment		
Mods		<u> </u>	1
t Mods			
	17 22 1ods Number	Number Description 17 NSS Intrument purge & Payload Isolation System 22 Ballast Ring for launch vehicle Mods Number Description SP-071 Taurus Isolation Random Vibe Environment Mods	Number Description 17 NSS Intrument purge & Payload Isolation System 22 Ballast Ring for launch vehicle Mods Number Description Completion Date SP-071 Taurus Isolation Random Vibe Environment Mods



GLORY - Safety and Mission Assurance

Laura McDaniel

LAUNCH SERVICES PROGRAM Evidence of Completion Assurance Verification Areas Status In Work Complete Aug Sep Oct Quality Y V Software / Hardware Problems The Taurus vehicle is under certification efforts by LS SMA and NASA LSP. Due to outstanding Data Requests for Taurus vendors from previous site visits, all hardware and software fabrication operations are not fully certified. \checkmark Alerts No issues \checkmark Audits/Inspections/Surveillances No issues or concerns $\overline{\mathbf{v}}$ Limited Life Items No issues Reliability $\overline{\mathbf{v}}$ FMEA/Fishbones/Equivalent Failure analyses assessments have been initiated along with vehicle certification planning V Reliability Assessments Reliability assessment of reliability requirement for certification is in progress. Design Reliability Report from Orbital is 10 months behind schedule (originally due December 15). Safety $\overline{\mathbf{v}}$ Requirements Definitions ICD & Safety documentation tailoring in work \checkmark Range Safety & Mission Flight Rules In-work (Range Safety) $\overline{\mathbf{v}}$ Licenses/Use Authorizations In-work Safety Documentation Range Safety Identified Potential Noncompliance (Nov.13.2006): Orbital has addressed (5-18-07) the potential non-compliances as well as other general items and is keeping the pace in resolving these important issues. $\overline{\mathbf{v}}$ Non-compliances No issues identified to date \checkmark Contingency Planning No issues (no planning required at this time) Mission Assurance $\overline{\mathbf{v}}$ Lessons Learned No previous NASA Taurus missions - Other KSC LL's will be reviewed/addressed Certification Effort in work First Flight/Mission Unique items \checkmark Test/Qualification/Certification Certification Effort in work $\overline{\mathbf{v}}$ Mission Assurance Assessments No issues October 18, 2007 LSP Internal Use Only Sensitive but unclassified

Risk Management	$\overline{\mathbf{v}}$	Risk Management System is working properly	6 6 6



GLORY Comm & Telemetry

Mike Patton and Nathan Wood

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

,	Aug	Sep	Oct
	G	G	0
ſ	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



LRO-LCROSS / LCROSS Project Summary

Mission	LRO-LCROSS / LCROS	3		LAUNCH SERVICES PI	TOOTAIII
Launch Date	2008/10/28	7 20			
Launch Vehicle	Atlas V				Aug Sep Oct
Launch Period Window	0			OVERALL MISSION	Y Y Y
PPF	ASO-KSC				
MISSION MANAGEMENT	Aug Sep Oct	LAUNCH SITE	Aug Sep Oct	SAFETY & MISSION	Aug Sep Oct
Observatory Status	6 6 6	LSSP	6 6 6	ASSURANCE	
Manifest/Range	6 6 6	Customer Inputs	G G G	Mission Assurance	YYY
ntegrated Schedule	6 6 6	PPF	6 6 6	Safety	G G G
CD	G Y R	Launch Site Unique	G G G	Quality	YYY
CDRLs (S/C & LSC)	6 G G	Spacecraft OPS	0 0 0	Reliability	6 6 6
<u>ENGINEERING</u>		COMM & TELEMETRY		BUSINESS	
_aunch Vehicle	YYY	Communications	6 6 6	Budget	Y G G
Mission Specific	Y Y Y	Telemetry	0 0 0	Contracts	G G G
Certification	N/A N/A N/A		1 1 1		A7 - V
Mission Analysis	YYY			LEGEND	
ERS/ERB	Y Y R			Proceeding on Plan	
aunch PAD/GSE	G Y Y			Area of Concern	G Y
Mission Unique IV&V	0 N/A G			Significant Problem	B
				Not Evaluated	60
DOWNRANGE TELEMETR	<u>L</u>			Not Evaluated Not Applicable	0 N/A
Ground Stations	G G G			Mor Whiteanie	N/A
Deployables	G G G				

N/A

N/A

P-3/OTTR



LCROSS Project Summary

John F. Kennedy Space Center

LAUNCH SERVICES PROGRAM

LCROSS Mission Launch Date 2008/10/28 Launch Vehicle Atlas V Launch Period Window PPF ASO-KSC

OVERALL MISSION

Aug	Seh	OCI
Υ	Y	Y:

MISSION MANAGEMENT

Observatory Status Manifest/Range

Integrated Schedule

ICD

CDRLs (S/C & LSC)

Aug	Sep	Oct
G	G	6
G	G	G
G	G	G
G	Υ	R
G	G	6

LAUNCH SITE

LSSP Customer Inputs

PPF

Launch Site Unique

Spacecraft OPS

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
0	0	0

SAFETY & MISSION ASSURANCE

Mission Assurance

Safety Quality

Reliability

Aug	Sep	Oc

	20.5	4.5
٥	٥	0
٥	0	0
٥	٥	0
٥	0	0

ENGINEERING

Launch Vehicle Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

			COMM & T
D	٥	0	Communica
D	٥	0	Telemetry
D	٥	0	

0

0

ELEMETRY

ations

G	G	G
٥	0	0

BUSINESS

Budget

Contracts

LEGEND

Υ	G	G
6	G	8

0 0

Proceeding on Plan

Area of Concern

Significant Problem

Not Evaluated

Not Applicable



DOWNRANGE TELEMETRY

October 18, 2007

Ground Stations

Deployables

P-3/OTTR

G	G	6
N/A	N/A	N/A
N/A	N/A	N/A

0

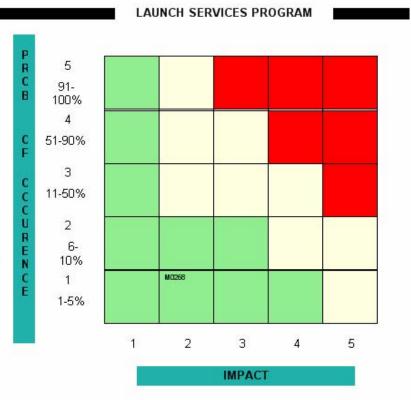
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LRO-LCROSS / LCROSS - Open/Accepted Risks

		Condition
RYG Trend	RiskID	Consequence
G	M0268	Condition: The LRO and LCROSS spacecraft have different risk classes (LRO-Class B and LCROSS-Class D) and as a result have different (dissimilar) test requirements. The loads model dynamic uncertainty factor (DUF) for the verification loads cycle for the combined spacecraft stack including launch vehicle elements will have to be agreed upon by four parties (LCROSS, LRO, ULA, and LSP).
		Consequence: May lead one party, in this case LRO, to accept more risk (higher DUF) than they would have if they were flying without LCROSS.





LRO-LCROSS / LCROSS - Actions / Issues / Concerns

	LAUNCH SERVICES PROGRAM	
There are no Actions.		

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Engineering	G	LRO contamination requirements imposed on the LV need to be allocated between LCROSS and LV unless external sources of contamination can be relaxed. LRO will coordinate directly with LCROSS with no additional measures imposed on the LV	WI	Jul 6 2006	12/12/2007
Engineering	Υ	LRO contamination requirements are very strict (0.25% obscuration). Special VIF GSE (Clean enclosures) are in work for operational use for protect LRO.	WI	09/26/2006	01/01/2008
Mission Management	G	Clarification of Mission Success Expectations and hand-off state between LSP and LCROSS. OCE needs clear understanding of LSP position on risk tolerance of LCROSS spacecraft to proceed with ERBs on long-duration components and so we can direct Atlas to perform or not perform qualification on Centaur and separation components as appropriate with mission risk tolerance.	WI/ERS	5/01/07	11/30/07
Engineering	G	Launch Vehicle issues that were being tracking as issues for SDO, will now be watch items for LRO-LCROSS since SDO launch is now NET Jan 2009.		8/14/07	8/01/08
Engineering	R	ICD Launch Window definition needs resolution by management. LSP not willing to sign LV ICD until resolved.	ERS 06-401	10/03/07	10/30/07



LRO-LCROSS / LCROSS - Significant Events

Accomplished ATP Launch Services 8/17/2006 LRO Mission CDR 11/6/2006-11/9/2006 LCROSS Mission PDR 9/6/2006-9/8/2006 LCROSS Mission CDR 2/21-23/2007 LRO/LCROSS Requirements TIM 8/24/2006

6/21/07-718/07

8/7/07-9/18/07

LCROSS Mission PDR	9/6/2006-9/8/2006
LCROSS Mission CDR	2/21-23/2007
LRO/LCROSS Requirements TIM	8/24/2006
LRO/LCROSS Kick-off MIWG	9/25/06-9/26/06
GOWG #1	11/28/2006-11/30/2006
LCROSS Confirmation Review	1/19/2007
LRO/LCROSS MURR	02/28/2007-02/28/2007
LV Mission Unique Requirements Review (MURR) complete	2/28/07-2/28/07
MIWG3/GOWG2/LV Mission Briefing to Range Safety	4/10/07-4/12/07
Early confidence testing of LRO TM, LCROSS discrete SIL, elec connectors pull test.	4/17/07-5/25/07
First round of CPWSR data released	5/25/07-6/21/07
MIWG 4 - Denver (ICD Release, and Avionics Splinter, EICD and MICD Review)	8/7/07-8/9/07
Recieved summary of white paper from LCROSS clarifying risk acceptance/tolerance (Class D.) Final White Paper recieved July 13, 2007.	6/22/07-7/15/07
LCROSS Electrical Connector Development test.	6/25/07-9/30/07

LAUNCH SERVICES PROGRAM

Planned		
Long duration Centaur contamination sources and residuals analysis. (White paint, abrasion overwrap, foam outgassing, residual water, & residual propellants)	4/01/07-12/05/07	
MUPDR	11/06/07-11/07/07	
MUCDR	3/01/08-5/02/08	
GOWG 3 - KSC	1/9/08 (U/R)-1/10/08 (U/R)	
Preliminary Release of LRO & LCROSS LSSPs.	10/30/07-11/30/07	
ICD Baseline release (4 parties -Atlas, LSP, LRO, & LCROSS)	9/14/07-10/30/07	
Commercial PPF contract (CLIN) in place for LRO and LCROSS processing.	10/30/07-11/3/07	
MIWG #5 (GSFC)	12/11/2007- 12/12/2007	

Preliminary CPWSR Data deliveries.

Final Loads Cycle Report Complete/Documented.

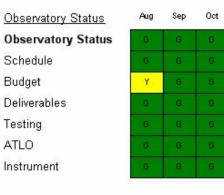


LRO-LCROSS / LCROSS Mission Management

Charles Tatro

LAUNCH SERVICES PROGRAM

LRO-LCROSS / Mission LCROSS 2008/10/28 Launch Date Orbit Requirement Lunar Trajectory **Launch Vehicle Class** Atlas V 0 Launch Period Window PPF ASO-KSC 2000 (LRO) Mass (kg) PAD SLC 41





Mission Center:	Other
Program:	LPRP, S/C Mgmnt - GSFC & ARCs
PM	Craig Tooley/ Dan Andrews
LVI	Tom Jones/ Mike Skidmore
ММ	Charles Tatro
IE	Diana Calero
LSIM	Tom Rucci
PIM	Randy Mizelle
MAM	Ken Hale
MCE	Marty Lougheed
MTE	Mike Patton

	Aug	Sep	Oct	
ICD	G	Υ	R	
There are no signed SCNs	The Rev		no SCN	ls in

<u>Status</u>
Integrated Schedule
CDRLs (S/C & LSC)
Manifest/Range
Ground Stations
Deployables
P-3/OTTR

Launch Vehicle



LCROSS Mission Management

Charles Tatro

LAUNCH SERVICES PROGRAM

Launch Date

Mission

Orbit Requirement

Launch Vehicle Class

Launch Period Window

PPF

Mass (kg) PAD

LCROSS	
2008/10/28	
LGALRO	
Atlas ∨	
0	
ASO-KSC	
<100	
SLC 41	_
	2008/10/28 LGALRO Atlas V 0 ASO-KSC <100

Aug	Sep	Oct
G	8	G
G	6	6
Υ	6	G
6	G	-6
G	6	-6
D	0	0
G	8	6

Mission Center: Program:

PM LVI

MM IE LSIM PIM MAM

MCE

MTE

AMES	
LPRP	

Dan Andrews

M. Skidmore/Tom

Luzod

Charles Tatro
Norman Beck, Jr.
Rex Engelhardt
Randy Mizelle
Ken Hale
Marty Lougheed

Mike Patton



	Aug	seh	OCL	
ICD	G	Y	R	
There are no signed	The	re are	no SCN	s in

There are no signed	There are no SCNs in	
SCNs	Review	

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC)

Manifest/Range Ground Stations

Deployables

P-3/OTTR

G	G	G
G	G	G
G	G	G
G	G	G
N/A	N/A	N/A
N/A	N/A	N/A



LRO-LCROSS / LCROSS - Engineering

Diana Calero

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
Launch Vehicle	Y	Υ	Υ
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	Y	Υ	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	Y	6	G
Other	Y	Υ	G
Mission Specific	Υ	Υ	Υ
Certification	N/A	N/A	N/A
Mission Analysis	Υ	Υ	Υ
ERS/ERB	Υ	Υ	R
Launch PAD/GSE	G	Υ	Y
Mission Unique IV&V	0	N/A	G

REQUIREMENT VERIFIC	ATION STATUS
NUMBER OF REQUIREMENTS	177
VERIFIED TO DATE	o

LAUNCH PAD I GSE MODS (IF APPLICABLE)	
LRO Clean Enclosure GSE	

MISSION UNIQUE STUDIES (IF APPLICABLE)

Modal sensitivity analysis due to LCROSS SC modal uncertainty



LRO-LCROSS / LCROSS - Mission ERB Status

Diana Calero

LAUNCH SERVICES PROGRAM

			ERB	Req?	0	Board	Held?	<i>**</i>	Closure	
R/Y/G	ERS#	TITLE	Y	N	Y	N	N/A	AI	ENG.	OCE
R	ERS 06-401	LRO/LCROSS ICD				\square				
G	ERS 06-397	LRO/LCROSS MURR			\square					
Υ	ERS 06-398	LRO/LCROSS MUPDR				\square				
G	ERS 06-399	LRO/LCROSS MUCDR				\square				
G	ERS 06-400	LRO/LCROSS MPDR				\square				
G	07-136	LCROSS Separation System Thermal Environment		☑		☑	☑			



LRO-LCROSS / LCROSS - Vehicle ERB Status

Diana Calero

LAUNCH SERVICES PROGRAM

			ERB	Req?	7	Board	Held?	7	Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	AI	ENG.	0CE
G	ERS-05-196	Atlas V - Thermal Assessement and Resdesign of Single Pneumatics Panel [long coast]		☑						
G	ERS-05-345	Centaur Large Helium Bottle (LHB) COPV								
G	ERS-03-609 /ERS-06- 305	Atlas V - Booster RP Tank / Atlas V RP Tank Long Term Redesign		☑			☑			
G	ERS-06-21	AV-010 Post Flight Data Review (First Article)		☑			☑			
G	07-204	Centaur performance degradation for NRO mission								



LRO-LCROSS / LCROSS - Launch Site

Tom Rucci

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	9/30/2007	
Baseline	3/27/2008	

	Aug	Sep	Oct
CUSTOMER INPUTS	G	G	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	G	G	G
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	N/A	0	0
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Aug	Sep	Oct	
LAUNCH SITE UNIQUE	G	G	G	
KSC Fueling Service	G	G	G	
PPF	G	G	G	
Commercial PPF Contract	G	G	G	

Spacecraft OPS	C
----------------	---



LCROSS - Launch Site

Rex Engelhardt

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
LSSP	G	G	G

LSSP	Planned	Released
Preliminary	09/30/2007	
Baseline	03/24/2008	

	Aug	Sep	Oct
CUSTOMER INPUTS	G	G	G
DELIVERABLES	Aug	Sep	Oct
Security and Badging	G	G	6
Training and Personnel Cert	G	G	G
Contingency Plans	G	G	G
Safety LSIM	G	G	G
Radiation Control	N/A	N/A	N/A
Operational Plans	G	G	G

UNIQUE REQUIREMENTS

	Aug	Sep	Oct
LAUNCH SITE UNIQUE	G	G	G
KSC Provided Fueling Service	G	G	G
PPF	G	G	G
Commercial PPF Contract	G	G	G
6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		_	
Spacecraft OPS	0	0	U

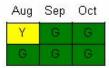


LRO-LCROSS / LCROSS - Business

Randy Mizelle

LAUNCH SERVICES PROGRAM

Budget Contracts



Milestone	Date	
Mllestone #10	10/31/08	
Milestone #1	8/17/06	
Milestone #2	1/31/07	
Milestone #3	4/20/07	
Milestone #4	05/16/2007	
Milestone #5	9/4/07	
Milestone #6	10/31/07	
Milestone #7	1/31/08	
Milestone #8	4/30/08	
Milestone #9	7/31/08	

_	Open Milestone Payment
	Paid Milestone

	Contract Status				
Launch Services			3		
Contract Mod	Number	Description			
	NLSB-226	Renamed CLIN 23 "TBD" from "LRO"			
	NLSL-086	ATP Standard Service CLIN 8			
	NLSL-092	ATP of MUS 4.0 - Enhanced PLA and PLF Cleaning			
	NLSL-093	ATP of MUS 8.0a - Test PLA for S/C Testing			
8	NLSL-098	3% Volume Buy Discount Application	3		
	NLSL-092	ATP of MUS 10.0 - SC Deposition			
	NLSL-093	ATP OF MUS 8.0b - Support for S/C Testing	3		
	NLSL-093	ATP of NSS 11.2a - Ultraviolet inspection	3		
	NLSL-093	ATP of NSS 11.2d - Tape Cleaning of PLF	3		

Contract Mod	Number	Description					
	NLSL-086	ATP of NSS 2.1d - Large Payload Fairing (LPF)					
	NLSL-086	ATP of MUS 2.0 - Interleaved Telemetry	ATP of MUS 2.0 - Interleaved Telemetry				
	NLSL-086	ATP of MUS 3.0 - SC GN2 Grade C Purge					
	NLSL-086	ATP of MUS 5.0 - Real Time Video					
	NLSL-086	ATP of MUS 6.0 - Mission Unique Flight Design and Analys	ATP of MUS 6.0 - Mission Unique Flight Design and Analyses				
	NLSL-086	ATP of NSS 11.1b - Molecular Contamination Monitoring					
	NLSL-086	ATP of NSS 11.2c - Particulate Fallout Monitoring					
	NLSL-106	Adjust launch window to 10/28/08 - 10/30/08					
There are no LD Contract N	Mods						
Task Assignments	Number	Description	Completion Date	Invoice Paid Date			
	NLS-075	LCROSS Mission Requirements Update (Centaur Long Duration Study/Analysis)	05/31/2008				
	NLS-076	LCROSS SIL Testing	05/31/2007	06/08/2007			
	NLS-077	LCROSS Electrical Connector Development Test (DET)	09/30/2007	10/01/2007			
	NLSB-173	Nutation Time Constant Assessment	1/13/06	1/31/06			
	NLSB-174	Early Mission Integration Support	11/30/06	1/31/06			
	NLSB-189	DIV Launch Vehicle Models	3/6/06	3/20/06			
	NLSL-067R2	E-Field Level Analysis and LV Compatibility for LRO S- band Transmission in the Fairing	10/31/2006	11/17/2006			
There are no PPF Contract	Mods						
There are no Other Contrac	t Mods						
There are no Issues.							



LCROSS - Business

Randy Mizelle

			LAUNCH SERVI PROGRAM	CES		
udget ontracts	Aug Sep Oct Y G G G G G	Milestone Date	Pay	en Milestone yment d Milestone		
		Contract Status				
Launch Services						
Contract Mod	Number	Description				
	NLSL-086	ATP of Mission Unique Service (MUS) 11.0 for LCROSS				
	NLSL-098	3% Volume Buy discount Application to MUS 11.0				
There are no LD Contract Task Assignments	Number	Description	Completion Date	Invoice Paid Dat		
	NLSL-075	Mission Requirements Update	5/31/2008	8		
	NLSL-076	Software Integration Laboratory (SIL) Testing	05/31/2007	06/08/2007		
	NLSL-077	Electrical Connector Development Test	09/30/2007	10/01/2007		
There are no PPF Contra	act Mods					



LRO-LCROSS / LCROSS - Safety and Mission Assurance

Ken Hale

Assurance Verification Areas	Sta	atus	Evidence of Completion			
	Complete	In Work		Aug	Sep	Oct
Quality				Y	Υ	Y
Software / Hardware Problems		☑	Assessing justification for flying current RP-1 tank w/o stiffeners on 401 config, RD-180/RD-170 commonality from SeaLaunch failure, and weld inspections by unqualified inspector.	Y	Υ	Υ
Alerts		$\overline{\mathbf{v}}$	No significant issues.	G	G	G
Audits/Inspections/Surveillances		✓	LS SMA participated in Mission Success Reviews (MSR's) for the AV-020 Centaur Tank and Aft Transition Structure (ATS). No issues.	G	G	G
Limited Life Items		$\overline{\mathbf{v}}$	No significant issues.	G	G	G
Reliability				G	G	G
FMEA		✓	No significant issues.	G	G	G
Reliability Assessments		$\overline{\mathbf{Z}}$	No significant issues.	G	G	G
Safety				G	G	G
Requirements Definitions		☑	LCROSS tailoring approved br Range. LRO tailoring under review by Range.	G	G	G
Range Safety & Mission Flight Rules		Ø	Working with both Spacecrafts and Range on acceptance of tank welds. Working resolution of access to LRO S/C Fill & Drain valves for emergency offload.	G	G	G
Licenses/Use Authorizations		$\overline{\mathbf{v}}$	No significant issues.	G	G	G
Safety Documentation			Comments provided to LRO interim MSPSP on 4/30/07. LCROSS MSPSP delivered on 4/16/07.	G	G	6
Non-compliances			None identified to date.	G	G	G
Contingency Planning			Working to identify specific contingency and data impound responsibilities based on LCROSS handoff.	G	G	G
Mission Assurance				Υ	Υ	Υ
Lessons Learned		☑	No significant issues.	G	G	G
First Flight/Mission Unique items		☑	Following resolution of access to LRO S/C Fill & Drain valves for emergency offload.	G	G	G

Test/Qualification/Certification	☑	Assessing justification for flying current RP-1 tank w/o stiffeners on 401 config., RD-180/RD-170 Commonality from SeaLaunch failure, and qualification of In-Flight Disconnects for LCROSS separation (Risk M0255).	Υ	Υ	Y
Mission Assurance Assessments	☑	Assessing justification for flying current RP-1 tank w/o stiffeners on 401 config and RD-180/RD-170 commonality from SeaLaunch failure.	Υ	Υ	Υ
Risk Management	$\overline{\mathbf{v}}$	No significant issues.	G	G	G



LRO-LCROSS / LCROSS Comm & Telemetry

Marty Lougheed and Mike Patton

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



LCROSS Comm & Telemetry

Marty Lougheed and Mike Patton

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Sep	Oct
G	G
G	G
G	G
G	G
G	G
G	G
G	G
G	G
	G G

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0



SDO Project Summary

John F. Kennedy Space Center

LAUNCH SERVICES PROGRAM

	- V
Mission	SDO
Launch Date	NET 2009/01/01
Launch Vehicle	Atlas V
Launch Period Window	
PPF	Commercial PPF

OVER	ΔΙΙ	MISS	ION
OVE	ALL	111133	

Aug	Sep	Oct
Y	G	0

MISSION MANAGEMENT

Observatory Status Manifest/Range

Integrated Schedule

ICD

CDRLs (S/C & LSC)

Aug	Sep	Oct
G	G	0
Υ	Υ	D
G	G	D
G	G	D
G	G	0

LAUNCH SITE

LSSP Customer Inputs

PPF

Launch Site Unique Spacecraft OPS

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

SAFETY & MISSION ASSURANCE

Mission Assurance

Safety

Quality Reliability

	535G-15	
G	G	0
G	G	0
Υ	Υ	0
G	G	0

Aug Sep

Oct

ENGINEERING

Launch Vehicle Mission Specific

Certification

Mission Analysis

ERS/ERB

Launch PAD/GSE

Mission Unique IV&V

G	6
G	G
N/A	N/A
G	G
G	G
G	G
	G N/A G

COMM & TELEMETRY

Communications

Telemetry

G	G	G
٥	0	٥

BUSINESS

Budget

Contracts

ß	G	G
6	G	8

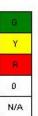
LEGEND

Proceeding on Plan Area of Concern

Significant Problem

Not Evaluated

Not Applicable



DOWNRANGE TELEMETRY

Ground Stations

Deployables

P-3/OTTR

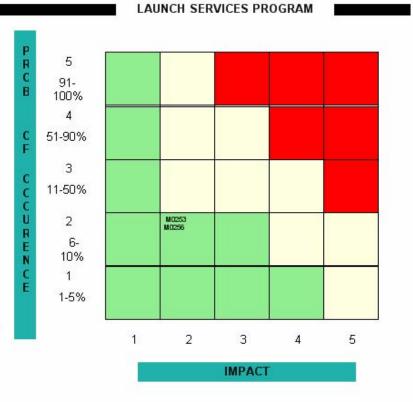
D	N/A	0
٥	N/A	0
۵	N/A	0

N/A



SDO - Open/Accepted Risks

	5	Condition
RYG Trend	RiskID	Consequence
	M0253	Due to numerous TDRS / ground station comm and shadow constraints during flight and after SC separation leads to constrained trajectory solutions
G		If launch does not occur before 18 Mar 09, next launch opportunity is 16 Jun 09 (91 days). Update: New targets being submitted which avoid the blackout dates.
Y	M0256	SDO EMI/EMC test levels are below those recommended by MIL-STD-461E. After system level testing is complete, there are no plans to disposition new sources added to the range.
-Y=		Range sources that go on line after SDO testing is complete must be mitigated or they may damage the SC instruments. The mitigation could lead to a delay in processing or an increase in LSP resources.





SDO - Actions / Issues / Concerns

	LAUNCH S	SERVICES PROGRAM	
There are no Actions.			Ĩ

Mission Summary Map	G/Y/R	ISSUES / CONCERNS	WI/ERS/Risk/ Problem	Open Date	Due Date
Business	0	Tech Eval of EA from LM in PIO. MRO EA being worked first.	NA	04/04/05	Oct-06
Engineering	Υ	GSFC uses GEVS for EMI/EMC specifications. It is being interpreted as only testing to *known* transmission sources. Thus the SC may end up being under-tested at low frequencies. SDO will not be testing to suceptibility levels, only performing the minimum of GEVS or known transmitters and relying on range mitigation.	Risk M0256	12 Oct 06	20 Oct 07
Engineering	G	SDO contamination "requirements" continue to expand. SDO requesting extensive verifications and real-time monitoring and alarms. Increased requests for fairing access at the VIF conflict with increased contamination requests. Update: Most issues resolved at 28 Mar MIWG. ICD has been signed, but several TA's need to be worked to resolve remaining issues.	WI	12 Oct 06	20 Oct 07
Engineering	6	Trajectory design has become very complicated. Shading and communications requriements continue to alter trajectory significantly. UPDATE - LSP has performed trajectory analysis and shown that large black out windows in fall (52 days) and spring (91 days) could be avoided with a different trajectory.	Risk 0253	28 Sep 06	18 Oct 07
Engineering	G	Loads from the analysis of liftoff environment w/o water suppression are too severe for SC. ULA refining the analysis to remove conservatism. If analytical refinement is not sufficient, water suppression will be used.	WI	23 Jul 07	12 Dec 07



SDO - Significant Events

LAUNCH SERVICES PROGRAM

Accomplished				
Procurement/ ATP	29 Sep 04			
SDO CDR @ GSFC	5 Apr 05-7 Apr 05			
SDO Adapter to LMSSC Tooling Fitcheck	12 Jan 06			
Test PLA/SC Test unit fitcheck @ GSFC	18 Jul 06			
MIWG @ LM/Denver	24 Oct 06-25 Oct 06			
GOWG @ Astrotech	11 Oct 06-12 Oct 06			
Initial CPWSR delivered	10 Aug 06-7 Feb 07			
MIWG/GOWG @ KSC	27 Mar 07-29 Mar 07			
Baseline ICD signed	1 Dec 06-8 May 07			
SC Propulsion Module Sine Vibe Test	15 Oct 07-17 Oct 07			
MIWG @ GSFC	18 Sep 07-19 Sep 07			

here are no items planned		



SDO Mission Management

Ron Mueller

LAUNCH SERVICES PROGRAM

Mission Launch Date

Orbit Requirement

Launch Vehicle Class Launch Period Window PPF

Mass (kg) PAD

	SDO
	NET 2009/01/01
25	km sun sync 6 am or pm ascending node
	Atlas V
	Commercial PPF
	3200 Kg
	SLC 41

Observatory Status

Observatory Status Schedule

Budget

Deliverables

Testing ATLO

Instrument

Aug	Sep	Oct
G	G	0
Y	Y	0
G	6	G
G	6	0
G	6	0
G	G	0
Υ	Y	0

Mission Center:

Program:

PM

LVI

MM IE

LSIM

PIM MAM

MCE MTE

GSFC	
Living With a Star	

Liz Citrin Kevin Hughes

Ron Mueller
Eric Poole
Dianna Lampert
Benjamin Studenski
Craig Schreiber
Robert McEntire
Marty Lougheed



ICD



SIGNED SCNS:		SCNS IN REVIEW		
SCN#	DATE SIGNED	SCN#	DATE SIGNED	
ICD	05/08/2007	002	*	
initial release		003		
001 (3.4 Flt Design)	08/09/2007			
004 (3.3.1.1 SC Therma	08/09/2007			

<u>Launch Vehicle</u> <u>Status</u>

Integrated Schedule CDRLs (S/C & LSC)

Manifest/Range

Ground Stations Deployables

P-3/OTTR

G	G	0
G	G	D
Υ	Υ	0
٥	N/A	0
٥	N/A	D
٥	N/A	0

October 18, 2007



SDO - Engineering

Eric Poole

LAUNCH SERVICES PROGRAM

	Aug	Sep	Oct
Launch Vehicle	G	G	G
Payload Fairing	G	G	G
First Stage	G	G	G
Second Stage	G	G	G
Third Stage	N/A	N/A	N/A
Payload Attach Fitting	G	G	G
Other	G	G	G
Mission Specific	G	G	G
Certification	N/A	N/A	N/A
Mission Analysis	G	G	G
ERS/ERB	G	G	G
Launch PAD/GSE	G	G	G
Mission Unique IV&V	N/A	N/A	N/A

REQUIREMENT VERIFI	CATION STATUS
NUMBER OF REQUIREMENTS	Ō
VERIFIED TO DATE	Ö

Drag on cooling required. TBD cart capabilities (cleanliness, pwr, elec, cooling)

MISSION UNIQUE STUDIES (IF APPLICABLE)
There are none.



SDO - Mission ERB Status

Eric Poole

LAUNCH SERVICES PROGRAM

			ERB	Req?	7	Board I	Held?	7	Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	Al	ENG.	OCE
G	ERS-06-182	SDO - First use of D1666 Payload Separation System on Atlas V				☑				
G	ERS-06-335	SDO Solar Array Deployment Immediately at Separation				Ø				
G	ERS-06-378	Solar Dynamics Observatory (SDO) ICD Review	☑		☑					



SDO - Vehicle ERB Status

Eric Poole

LAUNCH SERVICES PROGRAM

			ERB	Req?		Board	Held?	0	Closure	
R/Y/G	ERS#	TITLE	Y	N	Υ	N	N/A	AI	ENG.	0CE
G	ERS-05-345	Centaur Large Helium Bottle (LHB) COPV				\square				
G	ERS-05-196	Atlas V - Thermal Assessment and Redesign of Single Pneumatics Panel [long coast]		☑			☑			
G	ERS-06-21	AV-010 Post Flight Data Review (First Article)		☑			☑			
G	ERS-03-609 /ERS-06- 305	Atlas V - Booster RP Tank / Atlas V RP Tank Long Term Redesign		☑			☑			



SDO - Launch Site

Dianna Lampert

LAUNCH SERVICES PROGRAM

Aug Sep Oct

G G G

LSSP	Planned	Released
Preliminary	03/27/2007	4/2007
Baseline	02/15/2008	: 1

Aug Sep Oct
CUSTOMER INPUTS

G G G

DELIVERABLES
Aug Sep Oct
Security and Badging
G G G

Training and Personnel Cert
Contingency Plans
G G G

Safety LSIM
Radiation Control
N/A N/A N/A
Operational Plans
G G G

UNIQUE REQUIREMENTS

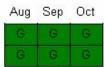


SDO - Business

Benjamin Studenski

LAUNCH SERVICES PROGRAM

Budget Contracts



Milestone	Date		
Milestone 1A	09/29/04		
Milestone 1B	03/15/05		
Milestone 1C	11/15/05		
Milestone #2	05/01/06		
Milestone #3	08/01/06		
Milestone #4	11/01/06		
Milestone #5	02/01/07		
Milestone #6	05/01/07		
Milestone #7	08/01/07		
Milestone #8	04/01/08		
Milestone #9	07/01/08		
Milestone: #10	10/01/08		
Milestone: #11	1/1/2009		

		Contract Status			
Launch Services					
Contract Mod	Number	Description			
	067	Change SDO Launch date to NET 8/1/2008			
	999	Change SDO Launch Date to NET 1/1/2009			
There are no LD Contrac	t Mods				
Task Assignments	Number	Description	Completion Date	Invoice Paid Date	
	028	Coupled Load Analysis (CLA) Report	09/14/2004	10/28/2004	
	066	SDO Trajectory Optimization	10/06/06	11/17/2006	
There are no PPF Contra		'	1		
Issues					
G Equitable a	djustment amount being	negotiated for launch delay to NET 8/1/2008			



SDO - Safety and Mission Assurance

Craig Schreiber

LAUNCH SERVICES PROGRAM Evidence of Completion Assurance Verification Areas Status Complete In Work Sep Oct Aug 0 Quality \checkmark Software / Hardware Problems RP-1 Tank Qual Y Y 0 \checkmark Alerts No Activity 0 \checkmark Audits/Inspections/Surveillances No Activity 0 V Limited Life Items No Activity 0 Reliability 0 V FMEA/Fishbones/Equivalent No Activity 0 \checkmark Reliability Assessments 0 Reliability data gathering in work Safety 0 V Requirements Definitions EWR 127-1 Tailoring In Work 0 $\overline{\mathbf{v}}$ Range Safety & Mission Flight Rules No activity 0 V 0 Licenses/Use Authorizations No activity \checkmark Safety Documentation No activity 0 $\overline{\mathbf{v}}$ Non-compliances None identified to date 0 $\overline{\mathbf{Z}}$ 0 Contingency Planning Deliver by SARR Mission Assurance 0 $\overline{\mathbf{v}}$ 0 Lessons Learned No activity \checkmark First Flight/Mission Unique items No activity 0 \checkmark Test/Qualification/Certification No activity 0 V Mission Assurance Assessments No activity 0 V No issues Risk Management

SDO Comm & Telemetry

Robert McEntire and Marty Lougheed

LAUNCH SERVICES PROGRAM

Communications

Voice Comm

Data Comm

Networks

Video Comm

Timing

RF Comm

LSSP Comm Annex

Aug	Sep	Oct
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G
G	G	G

Telemetry

Decommutation Tables

Data Integrity Test

Software Lockdown

Software Inventory

Console Configuration

Console Checkout

Aug	Sep	Oct
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0